
ENVIRONMENTAL Fact Sheet



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Dug Ponds

What is a dug pond?

A dug pond, also called a farm pond, is a small shallow pond created artificially by digging a depression in the land. It is usually filled primarily by groundwater, receiving surface water only from snowmelt and during storm events. Dug ponds are created for a number of reasons, including recreation (fishing, swimming, skating), irrigation, livestock watering, fire protection, wildlife habitat and landscaping. If a proposed pond impacts a stream or wetland, a N.H. Wetlands Bureau permit is required prior to construction (see Fact Sheet WRD-1991-6 and contact the Bureau at 271-2147).

What is a Detention Pond?

A detention pond is a type of dug pond specifically designed to reduce runoff from a developed area. These ponds function best when full of rooted plant growth. Not only do they reduce runoff flow and absorb the excess water, but they also allow silt to settle out and nutrients to be utilized, thereby protecting downstream waters. Many recent developments will have such ponds. Plants should NOT be removed from these ponds unless the pond has become so filled in that its designed function is impaired.

Why do dug ponds frequently have nuisance algae and rooted plant growth?

Plant growth is desirable if the pond is designed for wildlife habitat. The plant growth becomes a nuisance, however, when swimming is desired. Dug ponds have several characteristics that make them susceptible to unwanted plant growth:

- they are shallow, allowing sunlight to penetrate to the bottom, supporting photosynthesis throughout the pond;
- they have very little water flow through, becoming essentially stagnant during the warm summer months;
- they are often located in rich bottom lands or in areas receiving runoff from livestock or fertilized fields, thus receiving ample plant nutrients (phosphorus) to support excessive plant growth;
- they often have silty, mucky bottoms, providing suitable substrate for rooted plants; and
- if used as a fish pond, fish food pellets are frequently added, providing additional fertilizing nutrients to support plant growth.

How can I reduce the algae growth?

Depending on the situation and the cause of the algae growth, the following procedures can be used to help reduce the amount of algae growth:

- increase water inflow to the pond;
- reduce phosphorus inflow to the pond;
- remove nutrient-rich sediments from the pond; and
- aerate the pond.

To reduce the phosphorus inflow, all possible sources of phosphorus in the surrounding drainage area must be considered. If proposing to build a new pond, select an area with minimal sources of phosphorus within the watershed.

How can I reduce the rooted plant growth?

Rooted plant growth can be managed by the following techniques. A Wetlands Board permit may be required before using these techniques:

- dredge the pond to remove unwanted plants, deepen the pond and/or remove mucky sediments;
- cover the pond bottom with sand, gravel, black plastic or other material that discourages rooted plants;
- manually remove the plants;
- drain the pond over the winter to dry and freeze the plants; and
- construct barriers to reduce silt entering the pond.

Please be aware that maintaining a healthy dug pond is a continual process. The possible solutions offered above are not guaranteed to work; and, when they do work, are not necessarily long-lasting. DES discourages the use of herbicides or algacides to control unwanted plant growth in dug ponds because annual treatments are usually required and unwanted ecological impacts may occur. A pesticide permit is required from the N.H. Department of Agriculture (271-3550) before any pesticide may be applied.

Information on designing, constructing and maintaining a dug pond can be obtained from district Soil Conservation Service or County Cooperative Extension Service offices. Permit requirements for constructing or renovating a dug pond can be obtained from the Wetlands Bureau of DES at (603) 271-2147.